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Art Unit: 2800

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1. (Amended) An apparatus comprising:

an optical triggering circuit at a first location within a substantially benign electronic environment, wherein said optical triggering circuit generates an optical trigger signal:

a power circuit located at a second location remote from the first location within a substantially harsh electronic environment, wherein said power circuit includes at least one photoconductor that is responsive to the optical trigger signal generated by the optical triggering circuit; and

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an optical cable coupling the optical triggering circuit to the power circuit;

wherein the power circuit is directly driven by the transmission of the optical trigger signal from the optical triggering circuit to the power circuit via the optical cable.

- 2. (Amended) An apparatus as claimed in claim 1, further comprising a control processor coupled to the optical triggering circuit at the first location, wherein the optical triggering circuit is responsive to receipt of a command signal from the control processor to generate the optical trigger signal.
- (Amended) An apparatus as claimed in claim 1, further comprising a DC motor coupled to an output of the power circuit at the second location.
- 4. (Amended) An apparatus as claimed in claim 1, wherein the power circuit includes at least one leg including a pair of transistors, each transistor including a base coupled in series to a corresponding photoconductor, wherein activation of the corresponding photoconductor turns on the transistor.
- (Amended) An apparatus as claimed in claim 4, further comprising a corresponding shunt photoconductor coupled to the base of each transistor, wherein activation of the corresponding shunt photoconductor turns off the transistor.

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- 6. (Amended) An apparatus as claimed in claim 4, wherein at least one corresponding photoconductor comprises a photoconductive diode including a modified electrode structure.
- 7. An apparatus as claimed in claim 6, wherein the modified electrode structure includes a plurality of strips formed on a surface of the photoconductive diode.
- 8. An apparatus as claimed in claim 7, wherein the strips have a width of about $10\,\mu m$.
- 9. An apparatus as claimed in claim 7, wherein the strips have a thickness of between 0.25-1.0 μm .
 - 10. An apparatus as claimed in claim 9, wherein the strips are separated by gaps having a width of about 40 μm .
- 11. (Amended) An apparatus as claimed in claim 5, wherein at least one corresponding shunt photoconductor comprises a photoconductive diode including a modified electrode structure.

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12. An apparatus as claimed in claim 11, wherein the modified electrode structure includes a plurality of strips formed on a surface of the photoconductive diode.

- 13. An apparatus as claimed in claim 12, wherein the strips have a width of about 10 μm .
- 14. An apparatus as claimed in claim 12, wherein the strips have a thickness of between 0.25-1.0 μm .
- 15. An apparatus as claimed in claim 14, wherein the strips are separated by gaps having a width of about 40 μm .
- 16. (Amended) An apparatus as claimed in claim 4, wherein at least one corresponding photoconductor comprises a photoconductively controlled channel transistor.
- 17. (Amended) An apparatus as claimed in claim 5, wherein at least one corresponding shunt photoconductor comprises a photoconductively controlled channel transistor.
- 18. An apparatus as claimed in claim 1, wherein the optical triggering circuit utilizes a laser diode to generate the optical triggering circuit.
- 19. (Amended) An apparatus as claimed in claim 4, wherein each corresponding photoconductor can carry a current of at least 20 A for 50 ns.